

WHAT IS CLAIMED IS:

1. A light beam scanning apparatus, comprising:
a light beam generating unit configured to generate a light beam;
at least two modulators configured to modulate said light beam,
said at least two modulators outputting a modulated signal
including image data for a common scan line in a main
scanning direction; and
at least one image processor configured to transfer said image data
to said at least two modulators.
2. The light beam scanning apparatus according to claim 1, wherein
said at least two modulators comprise pulse width modulators
(PWM).
3. The light beam scanning apparatus according to claim 1, wherein
said at least two modulators comprise a first modulator configured
to output a modulated signal for odd pixel image data and a second
modulator configured to output a modulated signal for even pixel
image data.
4. The light beam scanning apparatus according to claim 3, wherein a
center of even and odd pixels is aligned by said light beam
generating unit.
5. The light beam scanning apparatus according to claim 3,
wherein the first modulator is synchronized with a reference clock,
and
wherein the second modulator is synchronized with a delayed
reference clock.

6. The light beam scanning apparatus according to claim 3,
wherein the first modulator is synchronized with a reference clock,
and
wherein the second modulator is synchronized with the reference
clock.
7. The light beam scanning apparatus according to claim 1, further
comprising:
a plurality of laser drivers,
wherein each of said plurality of laser drivers is coupled to a
corresponding one of said at least two modulators so as to
generate a laser driver signal from a corresponding
modulated signal, and
wherein said plurality of laser drivers are electrically coupled to said
light beam generating unit such that said light beam is driven
by said laser driver signals.
8. The light beam scanning apparatus according to claim 1, further
comprising:
a combiner coupled to said at least two modulators so as to receive
the modulated signals outputted by said at least two
modulator, said combiner outputting a combined modulated
signal; and
a laser driver coupled to said combiner so as to generate a laser
driver signal from said combined modulated signal.
9. The light beam scanning apparatus according to claim 8, wherein
said combiner comprises an OR gate circuit.

10. The light beam scanning apparatus according to claim 1, wherein said light beam generating unit comprises a single laser.
11. An image forming device including the light beam scanning apparatus according to claim 1.
12. The image forming device according to claim 11, wherein the image forming device comprises one of a laser printer, a photocopier, a facsimile machine, and a combination thereof.
13. The image forming device according to claim 1, wherein the common scan line is a series of pixels along the main scanning direction of an object to be scanned.
14. A method of scanning a common scan line in a main scanning direction with a light emitting device, comprising:
generating at least a first control signal and a second control signal for driving the light emitting device, said first control signal and said second control signal being generated from image data for the common scan line in the main scanning direction;
driving the light emitting device with the first control signal to scan the common scan line in the main scanning direction; and
driving the light emitting device with the second control signal to scan the common scan line in the main scanning direction.
15. The method according to claim 14, further comprising:
pulse width modulating the first control signal and the second control signal.

16. The method according to claim 14, further comprising:
combining the first control signal and the second control signal,
wherein driving the light emitting device with the first control signal
and driving the light emitting device with the second control
signal comprises driving the light emitting device with a
combined control signal.
17. The method according to claim 16, wherein combining the first
control signal and the second control signal comprises ORing the
first control signal with the second control signal.
18. The method according to claim 14, wherein the first control signal
corresponds to odd pixel image data and the second control signal
corresponds to even pixel image data.
19. The method according to claim 18, further comprising aligning a
center of even pixels with a center of odd pixels to maintain a pixel
pitch within a predetermined range.
20. The method according to claim 14, further comprising
synchronizing the second control signal with a delayed clock, the
delayed clock being delayed with respect to the first control signal.
21. The method according to claim 14, further comprising
synchronizing the first control signal and the second control signal
with the reference clock.
22. The method according to claim 14, wherein the common scan line
is a series of pixels along the main scanning direction of an object
to be scanned.

23. An image forming device, comprising:
means for emitting a light beam;
means for driving said means for emitting so as to scan a common scan line in a main scanning direction; and
means for modulating said light beam with a plurality of modulated signals including image data for the common scan line in the main scanning direction.
24. The image forming device according to claim 23, further comprising:
means for combining said plurality of modulated signals into a combined modulated signal.
25. The image forming device according to claim 23,
wherein said means for driving comprises a plurality of laser drivers, each of said plurality of laser drivers generating a laser driver signal from a corresponding modulated signal,
and
wherein the image forming device further comprises means for combining said laser driver signals.
26. The image forming device according to claim 23, wherein the common scan line is a series of pixels along the main scanning direction of an object to be scanned.